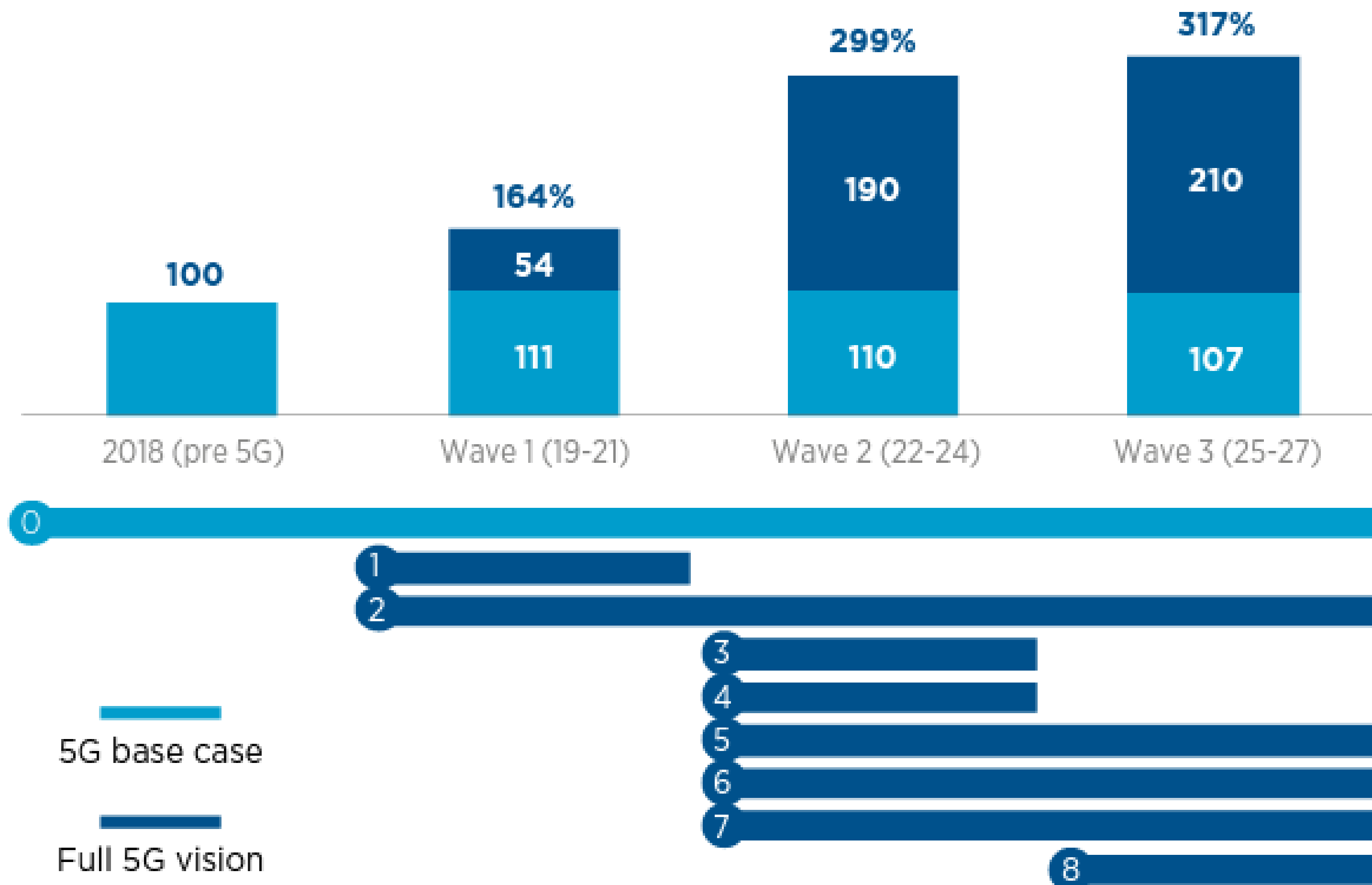


5G investment in the EU

19 October 2022

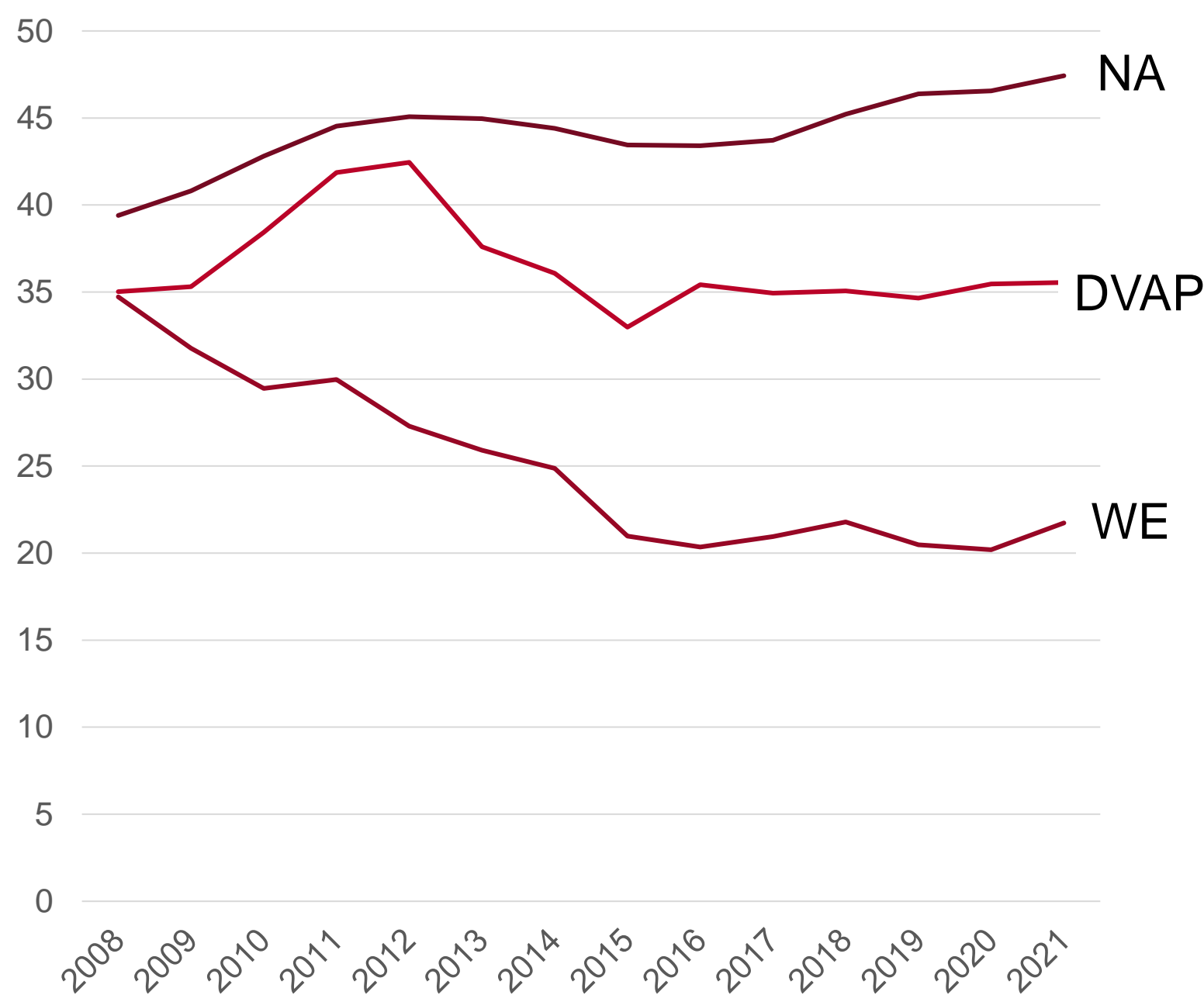
Javier Domínguez Lacasa, FREQ Chair, Telefónica



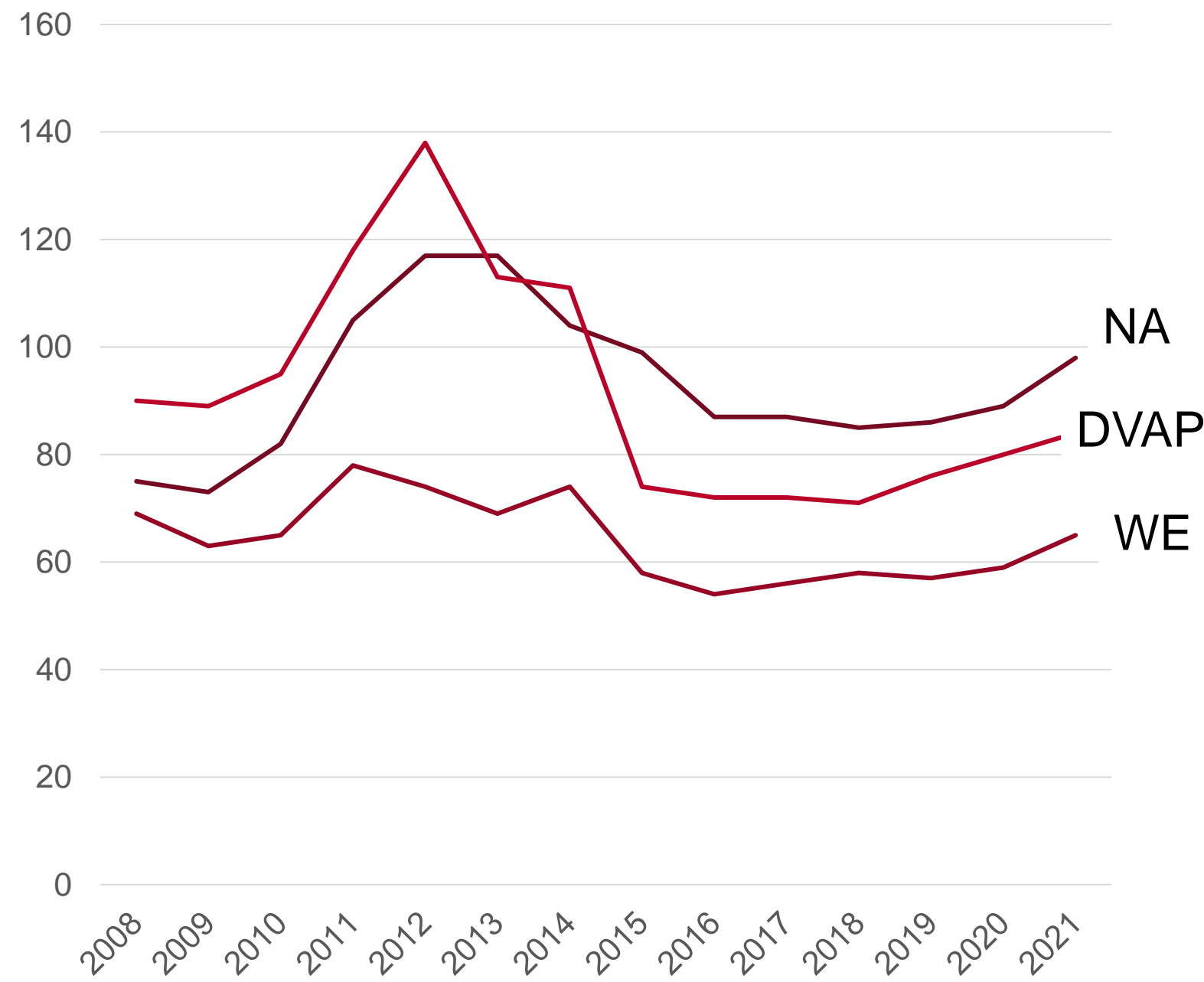
- 0 Base case: Inner-city DSS in rural areas
- 1 Deployment of edge data centers
- 2 Build back-ups and redundancies
- 3 High-bandwidth 5G coverage of highways
- 4 High-bandwidth 5G coverage of rail tracks
- 5 mmWave to cover 25% of population
- 6 High-bandwidth 5G coverage in rural areas
- 7 Deployment of micro-edge centers
- 8 High-bandwidth 5G coverage for all streets

Source: Boston Consulting Group (Realising 5Gs full potential setting policies for success MARCH20.pdf (gsma.com))

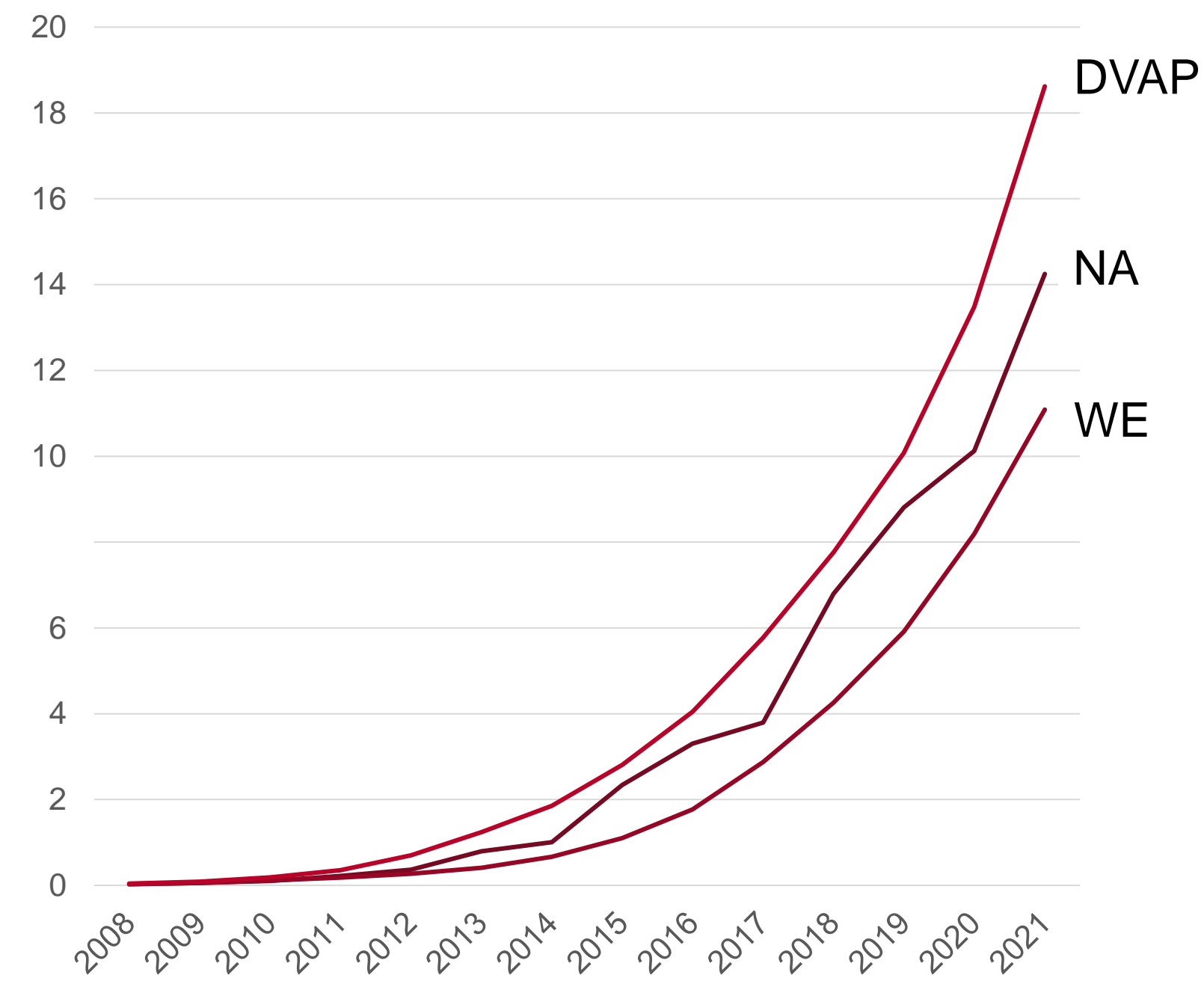
Mobile revenues / pop / month (USD)



Mobile Capex / pop / year (USD)



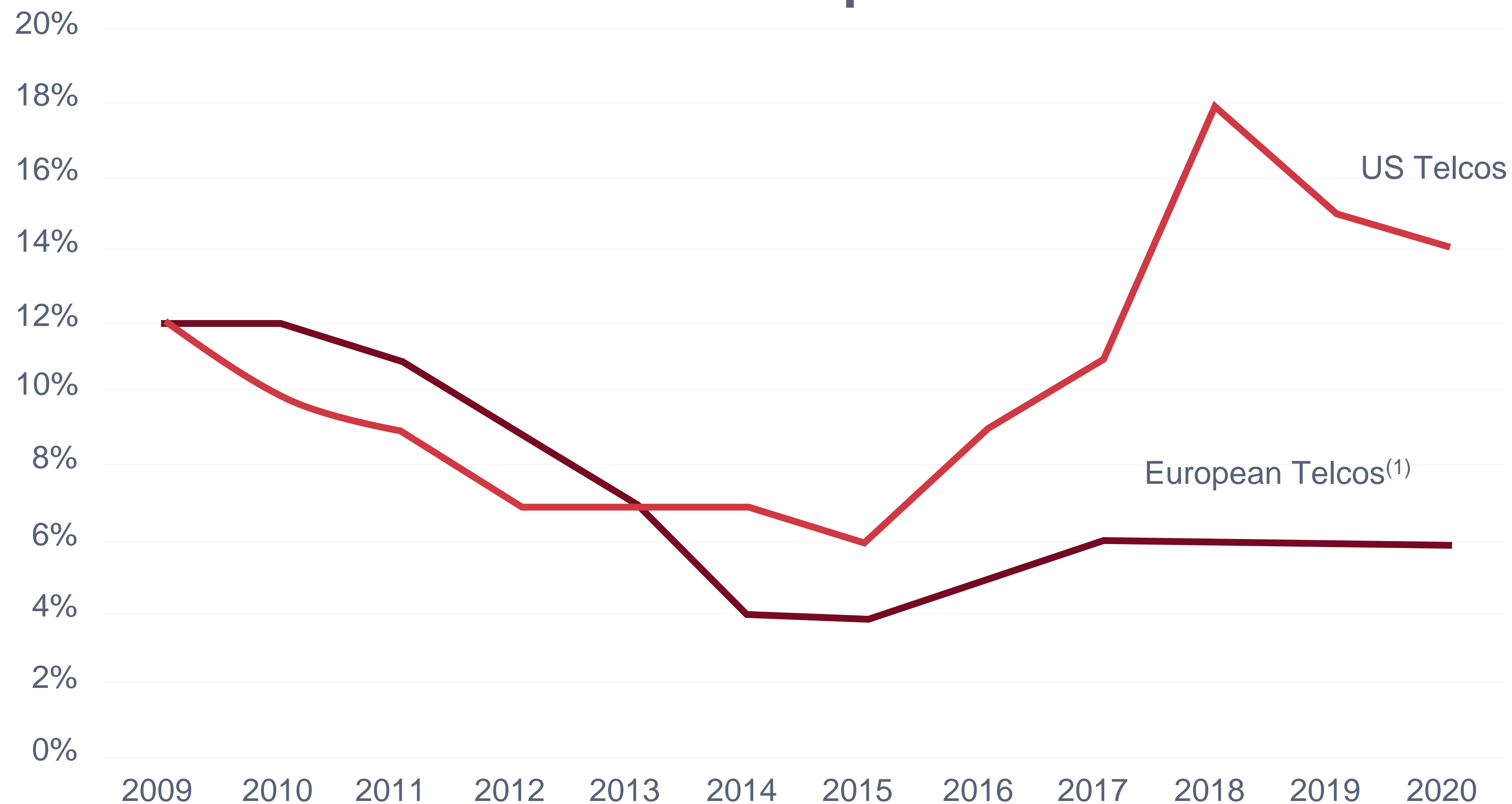
Cellular traffic / pop / month (GB)



—North America —Western Europe
 —Developed Asia Pacific

Source: Analysys Mason, Omdia

Return on capital employed (ROCE), European Telcos vs US counterparts¹



(1) Major telcos in FR, UK, DE, BE, ES, IT, NL, SE. Based on JP Morgan, October 2020.

Making Spectrum Policy a lever for investment & growth

1. Increase certainty of tenure
2. Build expectation of fair and reasonable spectrum prices
3. Prevent artificial scarcity created by set asides for local networks and verticals
4. Ensure new low & mid band spectrum is available to meet demand from end users